Chem. Homework – Ch. 4. Sec. 1-3

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1. What do we mean by a precipitation reaction?
2. When two solutions of ionic substances are mixed and a precipitate forms, what is the net charge of the precipitate? Why?
3. Describe briefly what happens when an ionic substance is dissolved in water.
4. What is meant by a strong electrolyte? Give two examples of substances that behave in solution as strong electrolytes.
5. How do chemists know that the ions behave independently of one another when an ionic solid is dissolved in water?
6. Using the solubility rules table, predict which of the following substances are likely to be soluble in water.
   1. Aluminum nitrate
   2. Magnesium chloride
   3. Rubidium sulfate
   4. Nickel(II) hydroxide
   5. Magnesium hydroxide
   6. Irion(III) phosphate
7. Using solubility rules given in the table, predict the identity of the precipitate that forms when aqueous solutions of the following substances are mixed. If no precipitate is likely, indicate this.
   1. Sodium carbonate, Na2CO3, and manganese(II) chloride, MnCl2
   2. Potassium sulfate, K2SO4, and calcium acetate, Ca(C2H3O2)2.
8. Write balanced net ionic equations for the reactions that occur when the following aqueous solutions are mixed. If no reaction is likely to occur, so indicate.
   1. Silver nitrate, AgNO3, and potassium chloride, KCl
   2. Nickel(II) sulfate, NiSO4, and barium chloride, BaCl2